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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,979	02/11/2002	Gary Rensberger	003797.00219	8669
28319	7590	11/06/2003	EXAMINER	
BANNER & WITCOFF LTD., ATTORNEYS FOR MICROSOFT 1001 G STREET, N.W. ELEVENTH STREET WASHINGTON, DC 20001-4597			LIU, MING HUN	
			ART UNIT	PAPER NUMBER
			2675	2
DATE MAILED: 11/06/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/068,979

Applicant(s)

RENSBERGER, GARY

Examiner

Ming-Hun Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Method and apparatus for cursor smoothing by matching cursor movement with refresh rate of the display.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 9, 10, 13, 15-17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being unpatentable by US Patent 5,589,893 to Gaugham et al.

In reference to claims 1, 3 9, 13, 15 and 16, Gaugham discloses a method for smoothing cursor movement (column 3, lines 64-65) where the pointing device receives a movement signal divides the signal into smaller, predetermined amounts, of movement signals (column 3, lines 60-64) and reports the smaller movement signals at dedicated reporting time (column 3, lines 30-36). It can be seen from figure 5 that the displacement data is given in two directions namely X and Y.

In reference to claims 2, 10 and 17, it can be seen from figure 5 that there are two reporting steps for the movement receiving step.

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In reference to claims 19 and 20, Gaugham teaches that the pointing device communicates wirelessly through RF transmissions (column 2, lines 1-5 and lines 10-14).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 11, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaugham.

In reference to claims 4, 11, and 18, Gaugham does not explicitly state that the predetermined division of movements need to be at least three, however he does disclose a "smaller number" which does include three. As seen from figure 5, Gaugham does teach the divisions of two smaller movement divisions. It would have been obvious to one skilled in the art that understands the spirit of this invention to adopt a number of divisions where the movement of the cursor remains smooth.

6. Claims 5, 6, 8, 12, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaugham in view of US Patent 5,327,528 to Hidaka et al.

In reference to claims 5, 6, 8, 12, and 21 Gaugham teaches that movements will be divided into smaller displacement movements (column 3, lines 61-62) but does not outline in detail the steps in producing the divisions.

Despite Gaugham omission, it would have been obvious to one skilled in the art to understand how to divide a larger measurement into smaller measurements. As exemplified by Hidaka on column 3, lines 30-37 it can be seen that movement division algorithms are rather common and several dividing algorithms exist within the art.

The limitations described in the claims resemble basic subtraction instructions that are commonly known and can be easily implemented by adding an arithmetic unit.

It would have been obvious to one skilled in the art to implement the subtracting algorithm suggested by the applicant, as the algorithm is commonly known method of producing small divisions of larger values.

Specifically with claim 8, Hidaka's division method does include a predefined value (n) and the first portion ($1/n$) is smaller than the subsequent ($(n-1)/n$) portion.

7. Claims 7, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaugham and US Patent 5,185,597 to Pappas et al.

In reference to claims 7, 14, and 22, as described above Gaugham teaches an invention where the cursor is smoothed by displaying movements in smaller sections.

Gaugham however, does not teach that the amount of time between reporting times is no larger than the refresh rate of the display.

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Pappas teaches that in order to reduce the amount of flicker of the cursor, cursor data need be displayed in synchronism with the refresh rate of the display system (column 2, lines 35-45).

Pappas' teaching easily be implemented into Gaugham's invention by displaying the smaller movement data in sync with the refresh rate of the display.

One skilled in the art would have been motivated to incorporate Pappas' teachings into Gaugham's invention because as Pappas' points out, by synchronizing the cursor and display refresh rates, a smoother cursor movement can be displayed, a problem that Gaugham's invention searches to remedy.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 5,376,949 to Haigh et al: Cursor synch with display refresh rate.

US Patent 5,361,081 to Barnaby: Cursor distance adjustments in step with refresh rate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on 703-305-9720. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Ming-Hun Liu



STEVEN SARAS
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